Name: _____ Class: __ Date: _____

GCF and LCM WORD PROBLEMS

Read each problem and write GCF (Greatest Common Factor) or LCM (Least Common Multiple) in the box to show that you understand the strategy it needs. On a separate piece of paper show your working out, with the number of the question. Record your answers on *this* sheet, including your *unit of measurement* (e.g., inches, miles, dogs, cakes).

1. Joanne is campaigning for class president and plans to distribute some campaign materials: 20 flyers and 16 buttons. She wants each classroom to receive an identical set of campaign materials, without having any materials left over. What is the greatest number of classrooms Joanne can distribute materials to?

_____

2. Serena wants to create snack bags for a trip she is going on. She has 6 granola bars and 10 pieces of dried fruit. If the snack bags should be identical without any food left over, what is the greatest number of snack bags Serena can make?

_____

3. Matthew goes hiking every 12 days and swimming every 6 days. He did both kinds of exercise today. How many days from now will he go both hiking and swimming again? _____

4. Mandy is making emergency-preparedness kits to share with friends. She has 12 bottles of water and 16 cans of food, which she would like to distribute equally among the kits, with nothing left over. What is the greatest number of kits Mandy can make? _____

5. Edeena is packing equal numbers of apple slices and grapes for snacks. Edeena bags the apple slices in groups of 18 and the grapes in groups of 9. What is the smallest number of grapes that she can pack?

_____

6. A club has 16 girls and 8 boys as members. The president wants to break the club into groups, with each group containing the same combination of girls and boys. The president also wants to make sure that no one is left out. What is the greatest number of groups the president can make?

_____

7. Ariel is making flower arrangements. He has 7 roses and 14 daisies. If Ariel wants to make all the arrangements identical and have no flowers left over, what is the greatest number of flower arrangements that he can make?

_____

8. Wilma is thinking of a number that is divisible by both 17 and 8. What is the smallest possible number that Wilma could be thinking of?

_____

9. *Sarah's Shipping* and *Ryan's Mail Services* both ship packages. Sarah's trucks will only carry loads of 18 packages. In contrast, Ryan's trucks will only carry loads of 11 packages. If both businesses ended up shipping the same number of packages this morning, what is the minimum number of packages each must have shipped?

_____

10. Nathan is stocking bathrooms at the hotel where he works. He has 18 rolls of toilet paper and 9 bars of soap. If he wants all bathrooms to be stocked identically, with the same combination of supplies in each one and nothing left over, what is the greatest combination of bathrooms Nathan can stock?

_____

11. Tayli wishes to advertise her business, so she gives packs of 13 red flyers to each restaurant owner and sets of 20 blue flyers to each clothing store owner. At the end of the day, Tayli realizes that she gave out the same number of red and blue flyers. What is the minimum number of flyers of each color she distributed?

_____

12. Jackson Stationery sells cards in packs of 11 and envelopes in packs of 13. If Kina wants the same number of each, what is the minimum number of cards that she will have to buy?

_____

13. Lavinia has 9 glasses and 6 mugs. She would like to set them out in identical groups, with none left over, in preparation for a dinner party. What is the greatest number of groups Lavinia can set out?

_____

14. Aylin is making a scrapbook using 18 photos and 20 newspaper clippings. She wants all the pages to be set up in the same way, with the same combination of photos and newspaper clippings on every page. She also wants to make sure that no items are left over. What is the greatest number of scrapbook pages that Aylin can create?

_____

15. *Hay's Linens* sells hand towels in sets of 17 and bath towels in sets of 6. If the store sold the same number of each this morning, what is the smallest number of each type of towel that the store must have sold?

_____

16. In preparation for a party, Brant is putting desserts onto platters. The chocolate cake is cut into 15 pieces and the cheesecake is cut into 6 pieces. If he wants to prepare identical platters without having any cake left over, what is the greatest number of platters he can prepare?

_____

Name : _____ Score : _____

Teacher : _____ Date : _____

Find the Greatest Common Factor for each number pair.

1) 24 , 60 _____

2) 8 , 12 _____

3) 5 , 10 _____

4) 40 , 5 _____

5) 20 , 60 _____

6) 6 , 40 _____

7) 30 , 24 _____

8) 15 , 5 _____

9) 5 , 4 _____

10) 12 , 30 _____

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Name: _____

Least Common Multiples

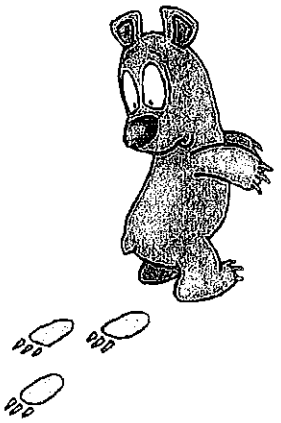
Find the least common multiple (LCM) of 2 and 3.

The multiples of 2 are: **2, 4, 6, 8, 10, 12, 14, 16, 18...**

The multiples of 3 are: **3, 6, 9, 12, 15, 18....**

The common multiples of 2 and 3 are: **6, 12, 18...**

The least common multiple of 2 and 3 is **6**.



Find the LCM of 3 and 4.

The multiples of 3 are: _____, _____, _____, _____, _____, _____, _____, _____, _____ ...

The multiples of 4 are: _____, _____, _____, _____, _____, _____, _____ ...

The common multiples of 3 and 4 are: _____ and _____

The LCM of 3 and 4 is: _____

Find the LCM.

a. 2 and 7

LCM = _____

b. 4 and 10

LCM = _____

c. 4 and 5

LCM = _____

d. 6 and 10

LCM = _____

e. 4 and 12

LCM = _____

f. 6 and 18

LCM = _____

Explain prime vs. composite #s and give examples of each.

Write a numerical expression for each phrase:

two plus five, cubed

. two plus five cubed

. seven less than twenty squared

. nine to the fourth power

. The square root of 144 times five

. The product of two and five, squared

Name: _____

Exponents

Rewrite each expression using exponents.

example: $7 \times 7 \times 7 \times 7 = 7^4$

a. $6 \times 6 \times 6 \times 6 \times 6$ _____

b. $3 \times 3 \times 3 \times 3$ _____

c. $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$ _____

d. 9×9 _____

e. $31 \times 31 \times 31 \times 31 \times 31 \times 31$ _____

f. $14 \times 14 \times 14$ _____

Rewrite each exponent in expanded form.

example: $5^6 = 5 \times 5 \times 5 \times 5 \times 5 \times 5$

g. 8^4 - _____

h. 4^9 - _____

i. 13^2 - _____

j. 100^6 - _____

Rewrite each exponent in standard form.

example: $6^3 = 216$

k. 5^2 _____

l. 7^4 _____

m. 4^3 _____

n. 9^3 _____

o. 1^{12} _____

p. 2^6 _____

Name _____ Class _____ Date _____

Reteaching 4-6

Rational Numbers

Evaluate $\frac{a + 7}{b}$ for $a = 9$ and $b = -2$. Write in simplest form.

$\frac{a + 7}{b} = \frac{9 + 7}{-2}$ Substitute.

$= \frac{16}{-2}$ Add.

$= -8$ Write in simplest form.

Evaluate. Write in simplest form.

1. $\frac{a}{b}$, for $a = -12$ and $b = 6$ _____

2. $\frac{m - n}{-4}$, for $m = -5$ and $n = 3$ _____

3. $\frac{2x - 5}{y}$, for $x = 6$ and $y = 21$ _____

4. $\frac{h}{h^2 - 2}$, for $h = 4$ _____

5. $\frac{n}{2m - 8}$, for $m = 2$ and $n = 10$ _____

6. $\frac{x}{3y + 4}$, for $x = 4$ and $y = 6$ _____

7. $\frac{-r - s}{s + 2}$, for $r = -4$ and $s = 2$ _____

8. $\frac{j^2 - k}{k}$, for $j = 4$ and $k = -12$ _____

9. $\frac{10 + f^2}{3f}$, for $f = 6$ _____

10. $\frac{z + 2}{z^2 - 4}$, for $z = 6$ _____

11. $\frac{a^2 + b^2}{2a + b}$, for $a = 4$ and $b = -3$ _____

12. $\frac{e}{f^2 - 2f + 1}$, for $e = -6$ and $f = 5$ _____

13. $\frac{17 - u^2}{v^2 - 4v}$, for $u = -3$ and $v = 2$ _____

14. $\frac{-50}{2x^2 - 3x + 5}$, for $x = -1$ _____

15. $\frac{y^3 - 4y + 6}{y^3}$, for $y = -2$ _____

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